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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/804,244

03/18/2004

Katsunari Oikawa

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7471

959 7590 04/12/2007

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EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT

PAPER NUMBER

1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/804,244	<b>Applicant(s)</b> OIKAWA ET AL.	
	<b>Examiner</b> George P. Wyszomierski	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 2/5/07 (RCE, Amendment).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 8-11 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. The Request for Continued Examination (RCE), Amendment, and fee filed February 5, 2007 have been entered. The pending claims are claims 1-4 and 8-11, with claim 8 withdrawn from consideration.

2. Claims 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how an "area" can comprise a heat treatment. If Applicant's intent is to state product-by-process limitations (i.e. some portion of the crystal grain boundaries are a result of a heat treatment process), it is noted that these limitations will be considered only to the extent that they affect some physical aspect of the products being claimed.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-129273 or over the Oikawa et al. Applied Physics Letters article.

Both JP '273 and Oikawa et al. disclose shape memory alloys comprising Co, Ni and Al, and including both a beta phase and a gamma fcc phase; see the English Abstract of JP '273 or page 3290 of Oikawa. The first full paragraph on page 3292 of Oikawa discloses a specific example that meets the compositional limitations as presently claimed and which contains 7%

gamma phase (within the ranges of claims 3 and 4). The English Abstract of JP '273 discloses compositional ranges that fully encompass those as presently claimed. With regard to claims 9-11 (and assuming that Applicant's intent was to recite product-by-process limitations in these claims), it is noted that a product-by-process claim defines a product. If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process; see *In re Thorpe* (227 USPQ 964, Fed.Cir. 1985). The burden then shifts to Applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product; see *In re Marosi* (218 USPQ 289, Fed.Cir. 1983). In the present case, Applicant has not met this burden.

The prior art does not disclose the percentage of grain boundaries occupied by gamma phase, and the JP '273 reference does not specify the overall amount by volume of gamma phase in the prior art alloys. However, given that the prior art compositions are substantially the same as those claimed, and appear to be made by substantially similar processes as those of the present invention, it is a reasonable assumption that the crystal structures of the prior art alloys are likewise substantially the same as those of the present invention.

Consequently, a prima facie case of obviousness has been established between the disclosures of JP '273 or Oikawa et al., and the presently claimed invention.

5. In the response filed February 5, 2007, Applicant notes that the percentages in the table of JP '273 are in mass % rather than the atomic % as now claimed and that therefore no specific example of JP '273 meets the presently claimed compositional limitations. While Applicant is correct on this point, the examiner notes that the '273

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reference encompasses a far larger compositional range as set forth in the Abstract of that reference, and the larger range includes the ranges as defined in the instant claims.


Applicant further notes that the heat treatment applied to the alloys in the Oikawa reference is different from that recited in new claims 9-11, and alleges that since the Oikawa reference "teaches a very different processing, the Oikawa reference does not teach or suggest an alloy that exhibits the same microstructure and properties of the claimed alloy." However, Applicant has pointed to no specific difference in composition, microstructure, or properties of the alloys disclosed by Oikawa et al. and those of the instant claims.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300. This Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GPW  
April 10, 2007

  
GEORGE WYSZOMIERSKI  
PATENT EXAMINER  
EXT 1700